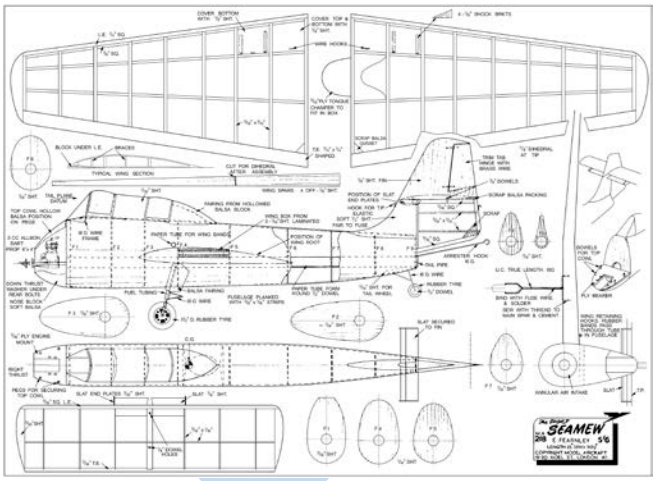
Short Seamew



A Successful Flying Scale Model of an Unusual Prototype Powered by a half c.c. motor by Eric Fearnley.

It is not often that we can get down to modelling and flying a " restricted list " Royal Navy type and power it with the simple Dart and a 6 X 4 in. plastic prop, in these clays of multi-engine and jets types.

However, in the Short Seamew we are fortunate in having a prototype using the Siddeley Mamba turboprop engine, so that although we have a jet orifice and tube (used in the model to form a fuel exhaust and backbone at the same time), we also have a propeller for flying purposes.

Do not be misled by the rather unusual aerodynamic form of the model it has in fact great stability in flight, and will glide some six or seven times its height from a hand launch when properly trimmed. Directionally stable, its high fuselage gives a high CLA which is better than dihedral and it also has great strength in its simple outline. Weakness in having a close coupled tail is well compensated by the enormous wing chord, which acts in the best flying wing tradition, minimising the work of the tailplane. In addition, the actual tail area is extremely large.

Provided reasonable care is used in setting the tail as indicated on the plan no trouble should be experienced in trimming the model. The main thing is to trim the tail to the flattest glide possible, and then add down thrust to dampen the stall under power. Mine needed two washers under the back bolts holding the Dart to get an uneventful power-on flight path, which is quite considerable. This is caused by having the mainplane at low incidence for building ease, plus a very low thrust line. Even when stalling, however, my model maintained a straight trim, refusing to fall oil on a wing and spin as so many low wing types tend to do. This is the position of the CLA again, of course.

The prototype balanced just behind the wing mainspar, and needed no weight adding, however, this may not be so with some models as with colour dope trim, heavyweight tissue, and fuel proofer it is slightly in the heavyweight class. A less elaborate model will be much lighter, and have an even better flight performance. The Dart has more than enough power for the model, and needs keeping throttled back about quarter of a turn on the compression lever from the " hot " position, at least until a satisfactory trim is established.

Fuselage: The basis is a paper tube which is made by soaking stiff paper (I used single weight photographic paper) for a few minutes, and wrapping it round a 1/2 in. dowel with strip elastic, remove and cement along the join. 1/32 in. balsa sheet could be used instead if desired. Cut the formers out of 1/16 in. balsa. A 1/2 in. punch can be used for the tube holes, if they are sanded slightly larger to allow for the thickness of the paper. Assemble the formers on the tube where indicated, making sure that they are in line when viewed fore and aft. Add the box to take the wring stubs on top of the tube, cementing thoroughly all round, adding the strengthening pieces where shown.

Short Seamew

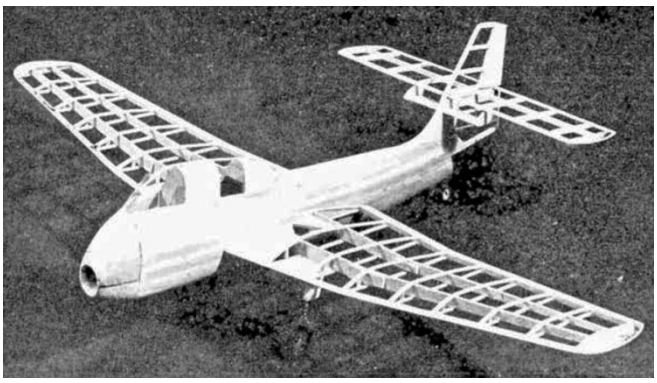
Plank the fuselage with 3/8 in. x 1/16in. strips, and use elastic bands and plenty of pins to keep in place. Don't spare the cement around the nose and wing box.

Add the fairings, cockpit details, and nose blocks, the motor mount is plywood. Add the fin and line up carefully at right angles to the wing box. Dope on tissue in strips, sand well and dope again.

Because of the tremendous chord they are made by the cap strip method. Pin the main-spars cut from 1/8 in. sheet, but without the dihedral cut, over the bottom strips of 3/16 x 1/16 in. which are first fastened to the plan. Trim and fit the trailing edge. Prepare the leading edge from 1/4 in. sq. with 1/8 in. sq. cemented to the back to form a " T " section. Cement this to the bottom strips. When dry, raise the leading edge to the amount shown, and add the top pieces or cap strips of pliable wood. Before removing from the plan, add small vertical strengtheners, as shown, to each wing rib. Finish with the sheet at the center section and where the undercarriage fits, also the tips. Sand well to finish.

Cut out two wing tongues from plywood, and fit to the center part. Be sure that they are both at the same angle. Double check this point if you want a flying model. Notice that the tongues overlap inside the fuselage, the top is bevelled off on one side and the corresponding bottom off the opposite one. They should lock in the fuselage nicely if made properly. Now break spars and cement with correct dihedral angle. A paper tube passes through the fuselage above the top to take a rubber band across two small wire hooks on the top of each wing to retain the wings in flight, and they spring off in a bad landing. Sew the undercarriage wire legs firmly in place on the wings, and add the shock brackets. Cover with heavy weight tissue.

Tail: This is simple and requires little explanation. The sub fin, with trim tab, is fixed to the top when finished. Holes are drilled to fit the locating dowels on fuselage fin half. The tail is retained with elastic bands across two small wire hooks. Fine trim is obtained by cutting or sanding away the fin supporting the tail.



Much scale detail can be added, such as arrester hook at tail, shock absorber detail, tail wheel fitting, slats on the underpart of the fin, which supports the tailplane in position, radar dome on the nose, and so on. (We don't recommend the latter for a living job.)

Finish: Standard Royal Navy finish is pale green glossy on the under surfaces, and slate green-grey upper surfaces.

Roundels arc equal red, white and blue. Royal Navy in black on the fuselage with serial number.

Put a cork in the tail tube, and pour in fuel proofer. When it is well soaked in, drain off again, and dry. The excess fuel, so fond of spraying a scale model in flight, is largely carried away in this tube, by the combination of blow at the front through the annular intake round the prop., and the suction at the tail.

Last Words: Aim for a dead straight glide by adjusting the tail and trim tab. Fix securely in place, and touch nothing else except the thrust line. Have the motor holes drilled a little large to give a little side play adjustment to counter a sharp turn, particularly to the right, which is fatal. Kill the power stall with washers under the rear lugs. The model will not easily break, especially if the wings are allowed to come off in a rough landing.

If you own a Seamew, you at least have something different. It cannot be mistaken for any other aircraft we know of and in the air it is well worth watching.

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